

REMARKS/ARGUMENTS

Claim Status

Claims 1-11 are canceled without prejudice. Claims 12-19 are pending. Claims 12 and 13 are currently amended. The amendments to claim 12 find support in the specification; [0016-18], [0030], [0055-56], [0060], Examples 19-20 and 1; [0050], Examples 8-9. The amendments to claim 13 find support in the specification; [0016-18], [0055-56], [0060], Examples 19-20 and 1; [0050], Examples 8-9. No new matter has been added.

Rejections

35 USC § 112

Claims 12-19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, namely the composition of the polymer. Claims 12 and 13 have been amended to recite the composition of the polymer and withdrawal of this rejection is requested.

35 USC § 103

Claims 12-14 and 17-19 are rejected under 35 U.S.C. 103(a) as being obvious over Yanagase (JP 0916554) in view of Fuji (U.S. 2002/0134026). Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being obvious over Yanagase in view of Fuji as applied to claims 1-3 and 5-10 above, and further in view of Greigger (U.S. Patent No. 4,435,219). Applicants traverse these rejections.

The present invention provides for a coating composition which, when applied to a product, produces a transparently coated article having high stain-resistance, improved weather resistance and improved coating elongation. Specifically, the coating of the present application comprises a polymer consisting of 10 parts by mass or less of a polymer block

(A) having a repetitive unit of dimethyl siloxane, a polymer block (B) having a repetitive unit of radical polymerizable monomers, and 1 to 20 parts by mass of a silicon-containing graft-linking unit (C) which is copolymerized to polymer block (A) and polymer block (B), the total amount of polymer blocks (A), (B) and (C) is 100 parts by mass; and a specific anionic surfactant and a specific nonionic surfactant having the number of the repetitive unit of polyoxyethylene of 10 or more. When an aqueous emulsion coating material comprising said combination is formed to be a coating, colloidal silica dispersed in the aqueous coating material selectively comes up to the surface layer of the coating (*See* paragraph [0036] of the specification). As a result, the colloidal silica fills up thickly the interstice of the polymer particles of the coating component at a coating surface layer and then an area of the colloidal silica exposed at a coating surface occupies 70% or more of the coating surface. Moreover, the above coating component, wherein the area of colloidal silica exposed at a coating surface occupies 70% or more of the coating surface, improves formability, weather resistance, water resistance, and freeze-thaw resistance, while the colloidal silica provides stain-resistance, anti-static properties, hardness, and weather resistance to said coating (*See* Specification; [0022-24]; 1.132 Declaration filed November 12, 2010).

Yanagase and Fuji do not disclose a combination of a specific anionic surfactant and a nonionic surfactant wherein the anionic and nonionic emulsifiers can selectively disperse colloidal silica to the surface of the coating. Yanagase discloses anionic emulsifiers (pg. 7, [0053]), but does not disclose the addition of a nonionic emulsifier to ensure that the area of exposure of colloidal silica on the surface of the coating is 70% (Official Action; pg. 3, line 23 - pg. 4, line 3). In fact, Yanagase discloses that anionic emulsifiers are *preferred* over anionic emulsifiers, and provides no suggestion of any potential advantage of the use of nonionic emulsifiers alone or in combination with the anionic emulsifiers. Applicants note that a prior art reference that "teaches away" from the claimed invention is a significant factor

to be considered in determining obviousness M.P.E.P. 2145 (X)(D)(I). “A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention.” *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). *See* M.P.E.P. § 2144.05(III)).

Fuji discloses that “a curing agent for curing the organic-inorganic composite polymer resin, for example an organic metal solution such as a tin compound, may be mixed in the coating agent, and a dispersing agent for dispersing the colloidal silica particles, for example a nonionic surfactant, may also be mixed in the coating agent” (pg. 4, [0076]). However, Fuji does not disclose a nonionic surfactant having the number of the repetitive unit of polyoxyethylene of 10 or more, and neither Yanagase or Fuji disclose or suggest combining an anionic and nonionic emulsifiers (surfactants) to obtain area of exposure of colloidal silica on the surface of the coating of 70%. Accordingly, the combination of these two references is not sufficient to render *prima facie* obvious the claimed invention.

The Office argues that the dispersal of the colloidal silica to the surface of the coating is not found in the claimed invention. Applicants disagree. Claim 12 specifically states that the colloidal silica is 0.5 to 20 parts by mass in solid form for 100 parts by mass of the polymer, and an area of the colloidal silica exposed at a coating surface occupies 70% or more of the coating surface.

The Examiner further appears to present an argument of inherency, stating “...the combination of Yanagase, Fuji, and Greigiger meets the compositional requirements of the claimed invention, meaning the coating properties would be expected to be the same.” (*See* Official Action, pg. 3, lines 8-13). However, the examiner has no proof of this. Applicants note that according to MPEP 2112 (IV), the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

As noted by the court in *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323 (CCPA 1981), the mere fact that a certain thing may result from a given set of circumstances is not sufficient to prove inherency. Inherency may not be established by probabilities or possibilities.

Something that is inherent must inevitably be the result each and every time.

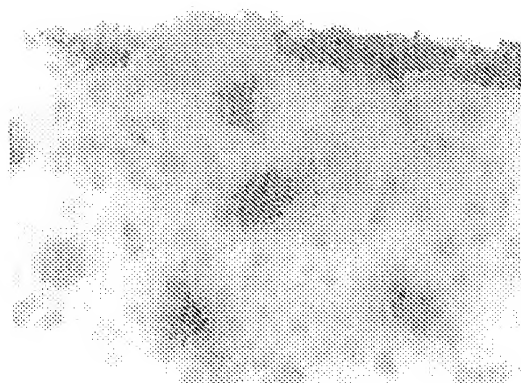
It is by now well settled that the burden of establishing a *prima facie* case of inherency resides with the Patent and Trademark Office. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984), quoting *In re Warner*, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967). Before an Examiner can switch the burden of proof of showing non-inherency to the applicant, the Examiner must provide some evidence or scientific reasoning to establish the reasonableness of the Examiner's belief that the limitation is an inherent characteristic of the prior art. In this case, the Examiner has provided no such evidence other than simply concluding that Fuji discloses nonionic surfactants (Official Action; pg. 4, lines 3-5).

Furthermore, even if a *prima facie* case of obviousness were established, which it has not, Although Applicants are under no burden to do so, Applicants note that the Declaration filed November 12, 2010 states that the high exposure of colloidal silica on the coating surface obtained according to the specific anionic surfactant in combination with a nonionic surfactant having the number of the repetitive unit of polyoxyethylene of 10 or more is unexpected (See 1.132 Declaration; para. 3). Specifically, the effect of the specific anionic and nonionic surfactant claimed (colloidal silica distributed in the aqueous coating material is selectively floated up to the surface layer of the coating) could not have been expected by a person having ordinary skill in the art, which is sufficient to rebut *prima facie* obviousness.

Applicants now enclose herewith the following figures 1 and 2 which are cross sectional electron microscope photographs of a surface and its vicinity of coatings of Example 11 of the present application and Example 5 of Yanagase (See Enclosed 37 C.F.R. §

1.132 Declaration). It can readily be observed from these Figures that when a specific non-ionic surfactant is not used together with a specific anionic surfactant, colloidal silica is uniformly distributed throughout the coating (*See* Declaration, para. 4-5).

Figure 1



100,000 x

Figure 2



100,000 x

Although Fuji discloses use of a nonionic surfactant as a dispersant of colloidal silica, it would not be foreseeable to one of ordinary skill in the art that the combination of Yanagase and Fuji would not result in the distribution of the colloidal silica in a coating, but would broach the surface of the coating and concentrate at a surface portion (*See* Declaration, para. 6).

With respect to the secondary references, Greigger discloses compositions comprising dispersions of colloidal silica, water and alkoxysilanes (col. 2, lines 3-8). Greigger further discloses that alcohols useful in said compositions typically include lower aliphatic alcohols, ethanol, isopropanol, and tertiary-butanol, with isopropanol being preferred. In addition, mixtures of such alcohols can be utilized, and when mixtures of alcohols are used, it is preferred that at least 50 weight percent of isopropanol be present in such a mixture (col. 4, lines 35-42). Greigger fails to disclose a coating composition of the present invention comprising colloidal silica exposed at a coating surface wherein the colloidal silica occupies 70% or more of the coating surface.

Kanamori discloses a coating composition for under coatings comprising organosilane, or hydrolysate or condensate thereof; a polymer containing silicon atom connected with hydrolysable group and/or hydrogen group, and colloidal silica and/or colloidal alumina (claim 2). However, Kanamori also fails to disclose a coating composition of the present invention comprising colloidal silica exposed at a coating surface wherein the colloidal silica occupies 70% or more of the coating surface.

Accordingly, even if Greigger and Kanamori were combined with Yanagase and Fuji, the coating composition of the present invention having an area of the colloidal silica exposed at a coating surface wherein the colloidal silica occupies 70% or more of the coating surface would not be obtained. Thus, the Office has failed to establish a *prima facie* case of obviousness.

Conclusion

For the reasons discussed above, Applicants submit that all now-pending claims are in condition for allowance. Applicants respectfully request the withdrawal of the rejections and passage of this case to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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